



National Transportation Safety Board Aviation Accident Final Report

Location:	Virginia, MN	Accident Number:	CHI02LA165
Date & Time:	06/15/2002, 1400 CDT	Registration:	N598HL
Aircraft:	Firm Kit Fox 4-1200	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

While in cruise flight the amateur built airplane impacted a bird which severed the fuel primer line and its supply line, resulting in an in-flight fire and loss of engine power. The pilot reported, "I made a steep, descending right turn back to the lakebed." The pilot stated that during landing the "right main entered a wet area and dug in and flipped the plane onto its back." The airplane was destroyed during a post-impact fire. The pilot reported that he found the charred remains of a bird among the engine remains. The pilot stated that the propeller spinner had impact damage and the fuel primer line and its supply line were severed.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: An in-flight collision with a bird that resulted in severed fuel lines and the subsequent in-flight fire and loss of engine power. A factor in the accident was the soft terrain condition.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: CRUISE

Findings

1. (C) OBJECT - BIRD(S)

Occurrence #2: LOSS OF ENGINE POWER
Phase of Operation: CRUISE

Findings

2. FUEL SYSTEM,LINE - CUT/SEVERED

Occurrence #3: FIRE
Phase of Operation: CRUISE

Findings

3. FUEL SYSTEM - FIRE

Occurrence #4: FORCED LANDING
Phase of Operation: EMERGENCY DESCENT/LANDING

Occurrence #5: NOSE OVER
Phase of Operation: LANDING - ROLL

Findings

4. (F) TERRAIN CONDITION - SOFT

Occurrence #6: FIRE
Phase of Operation: OTHER

Factual Information

On June 15, 2002, at 1400 central daylight time, an amateur built Firm Kit Fox 4-1200, N598HL, piloted by a private pilot was destroyed by a post impact fire following a forced landing near Virginia, Minnesota. Visual meteorological conditions prevailed at the time of the accident. The flight was being operated under the provisions of 14 CFR Part 91 without a flight plan. The pilot reported no injuries. The flight originated at Tower Municipal Airport (12D), Tower, Minnesota, at 1350 central daylight time.

According to the pilot's written statement, during cruise flight at 800 feet above ground level (agl) he experienced a strong fuel odor followed by a loss of engine power and smoke over the windshield. The pilot stated, "I made a steep, descending right turn back to the lakebed. My airspeed was high enough to pull over a patch of dead standing trees on the edge of the lakebed. At this point, I noticed my windshield on the right side was starting to melt and discolor. I did not see any flames, but the smoke in the cabin was very thick. I touched down on the main wheels at about 20 miles per hour above stall speed and coasted on the mains for about 250 feet before the right main entered a wet area and dug in and flipped the plane onto its back." The pilot reported that the right wing fuel tank was on fire as he exited the aircraft. He stated that the right wing was engulfed in flames and that the cockpit, seats, windshield, and the left wing were burning. The airplane was destroyed during the post-impact fire.

The pilot reported that he found the charred remains of a bird among the engine remains. The pilot stated that the propeller spinner had impact damage and the fuel primer line and its supply line were severed.

Pilot Information

Certificate:	Private	Age:	34, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	08/15/2000
Occupational Pilot:		Last Flight Review or Equivalent:	09/27/2000
Flight Time:	620 hours (Total, all aircraft), 398 hours (Total, this make and model), 620 hours (Pilot In Command, all aircraft), 120 hours (Last 90 days, all aircraft), 40 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Firm	Registration:	N598HL
Model/Series:	Kit Fox 4-1200	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental	Serial Number:	1734
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	05/08/2002, Condition	Certified Max Gross Wt.:	1200 lbs
Time Since Last Inspection:	47 Hours	Engines:	1 Reciprocating
Airframe Total Time:	398 Hours at time of accident	Engine Manufacturer:	NSI
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	EA-81
Registered Owner:	Howard T Firm	Rated Power:	98 hp
Operator:	Howard T Firm	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	EVM, 1378 ft msl	Distance from Accident Site:	8 Nautical Miles
Observation Time:	1356 CDT	Direction from Accident Site:	180°
Lowest Cloud Condition:	Scattered / 6500 ft agl	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	10 knots / 20 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	350°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.88 inches Hg	Temperature/Dew Point:	20° C / 4° C
Precipitation and Obscuration:			
Departure Point:	Tower, MN (12D)	Type of Flight Plan Filed:	None
Destination:	Eveleth, MN (EVM)	Type of Clearance:	None
Departure Time:	1350 CDT	Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Destroyed
Passenger Injuries:	N/A	Aircraft Fire:	In-Flight and On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	Andrew T Fox	Report Date:	04/18/2003
Additional Participating Persons:	Bill Johnson; Federal Aviation Administration, Minneapolis FSDO; Minneapolis, MN		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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